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Catalogue of Planetary Objects. Version 2006.0

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Abstract. The analysis of the density and brightness of big planets' satellites, main asteroid belt objects, Kuiper belt objects and centaurs has been carried out as well as the analysis of suspected unseen satellites of the stars. According to the date on the first of January, 2006 the catalogue of planetary objects has been compiled.

Planets are the cosmic bodies, which have mass within limits $(10^{-11} - 10^{-10}) \div 10^{-2} m_{\odot}$ (Alexandrov Yu.V. & Zakhozhay V.A. 1980; Sluta E.N. & Voropaev S.A. 1980; Zakhozhay V.A. 2005a). Based on this criterion, the analysis of the masses of Solar system objects (big planets' satellites, main asteroid belt objects, Kuiper belt objects and centaurs) has been carried out as well as the analysis of suspected unseen satellites of the stars. Masses of Solar system bodies were based on analyze from space mission data, brightness and geometric albedo, based on assumption that average density of silicate planets — 3–5 g/cm^3, ice — 1 g/cm^3, and geometric albedo of Kuiper belt objects are within the limits 0.03–0.12 (Zakhozhay O.V., Zakhozhay V.A., & Krugly Yu.N. 2006a;Zakhozhay O.V., Zakhozhay V.A., & Krugly Yu.N. 2006b). The exoplanet masses based on observation parameter $m_p \cdot Sini$ were analyzed.

As a result, according to the date on the first of January 2006 the catalogue of planetary objects has been compiled. It consists of 9 tables. The first three tables consist of the planetary bodies. Whose belonging to planets is beyond doubt. They are: big planets (Table 1.); 20 satellites of the big planets (Table 2.), whose masses exceed the minimal masses of the planets — $m_{po} = (10^{-11} - 10^{-10}) m_{\odot}$; 3 Main asteroid belt objects (Table 3.), whose masses exceed m_{po} (based on the calculations according to the albedo and brightness). Estimation of centaurs and Kuiper belt objects masses were based on absolute brightness (which was taken from database [http://cfa-www.harvard.edu]) and calculations of their albedo and average density. The list of these candidates includes four tables (depending on heliocentric distance): $a < 30$ a.u. (centaurs) — Table 4.; $a = 40 \pm 10$ a.u. (general Kuiper belt) — Table 5.; $50 < a < 80$ a.u. (near region of scattered-disk Kuiper belt) — Table 6.; $a < 80$ a.u. (distant region of scattered-disk Kuiper belt) — Table 7. The most probable discovered exoplanets are itemized in the Table 8. Table 9. represents a list of the candidates which existence wasn't

confirmed. The exoplanets data was taken from works (Zakhozhay V.A. 2005b; Zakhozhay V.A. 2001) and database [http://www.obspm.fr/planets].

Table 1. Big planets

N	Name	m_p, g	D, km	ρ, g/cm^3	a, a.u.
1.1	Mercury	$3.30 \cdot 10^{26}$	4879	5.43	0.387
1.2	Venus	$4.87 \cdot 10^{27}$	12104	5.24	0.723
1.3	Earth	$5.97 \cdot 10^{27}$	12756	5.52	1.000
1.4	Mars	$6.42 \cdot 10^{26}$	6794	3.94	1.524
1.5	Jupiter	$1.90 \cdot 10^{30}$	142984	1.33	5.204
1.6	Saturn	$5.69 \cdot 10^{29}$	120536	0.70	9.584
1.7	Uranus	$8.66 \cdot 10^{28}$	51118	1.30	19.187
1.8	Neptune	$1.03 \cdot 10^{29}$	49528	1.76	30.021
1.9	Pluto	$1.50 \cdot 10^{25}$	2390	1.1	39.231

Table 2. Satellites

N	Name	m_p, g	D, km	ρ, g/cm^3	a, a.u.
2.1	Moon	$7.35 \cdot 10^{25}$	3475	3.34	$2.570 \cdot 10^{-3}$
2.2	Io	$8.92 \cdot 10^{25}$	3640	3.55	$2.821 \cdot 10^{-3}$
2.3	Europa	$4.85 \cdot 10^{25}$	3130	3.04	$4.485 \cdot 10^{-3}$
2.4	Ganymede	$1.49 \cdot 10^{26}$	5268	1.93	$7.153 \cdot 10^{-3}$
2.5	Callisto	$1.08 \cdot 10^{26}$	4806	1.83	$12.587 \cdot 10^{-3}$
2.6	Mimas	$3.80 \cdot 10^{22}$	390	1.2	$1.240 \cdot 10^{-3}$
2.7	Enceladus	$7.00 \cdot 10^{22}$	500	1.1	$1.591 \cdot 10^{-3}$
2.8	Tethys	$7.60 \cdot 10^{23}$	1060	1.2	$1.970 \cdot 10^{-3}$
2.9	Dione	$1.05 \cdot 10^{23}$	1120	1.4	$2.523 \cdot 10^{-3}$
2.10	Rhea	$2.49 \cdot 10^{24}$	1530	1.3	$3.523 \cdot 10^{-3}$
2.11	Titan	$1.35 \cdot 10^{26}$	5150	1.9	$8.167 \cdot 10^{-3}$
2.12	Iapetus	$1.75 \cdot 10^{24}$	1440	1.2	$23.806 \cdot 10^{-3}$
2.13	Miranda	$7.00 \cdot 10^{22}$	470	1.3	$0.865 \cdot 10^{-3}$
2.14	Ariel	$1.36 \cdot 10^{24}$	1160	1.6	$1.277 \cdot 10^{-3}$
2.15	Umbriel	$1.20 \cdot 10^{24}$	1190	1.4	$1.780 \cdot 10^{-3}$

N	Name	m_p, g	D, km	ρ, g/cm^3	a, a.u.
2.16	Titania	$3.53 \cdot 10^{24}$	1580	1.6	$2.914 \cdot 10^{-3}$
2.17	Oberon	$3.00 \cdot 10^{24}$	1530	1.5	$3.901 \cdot 10^{-3}$
2.18	Triton	$2.15 \cdot 10^{25}$	2700	2.1	$2.371 \cdot 10^{-3}$
2.19	Nereid	$2.00 \cdot 10^{22}$	340	1.0	$36.855 \cdot 10^{-3}$
2.20	Charon	$1.80 \cdot 10^{24}$	1200	2.1	$0.131 \cdot 10^{-3}$

Table 3. Asteroids

N	Name	m_p, g	D, km	ρ,g/cm^3	a, a.u.
3.1	Ceres	$9.47 \cdot 10^{23}$	960	2.0	2.767
3.2	Pallas	$2.15 \cdot 10^{23}$	550	2.5	2.773
3.3	Vesta	$2.67 \cdot 10^{23}$	530	3.4	2.361

Table 4. Centaurs

N	Name	H	a, a.u.
4.1	1995 SN55	6.0	23.564
4.2	1997 CU26 [1]	6.4	15.868
4.3	1977 UB [2]	6.5	13.685
4.4	2002 GZ32	6.8	23.212
4.5	1992 AD[3]	7.0	20.431

Table 5. General Kuiper belt

N	Name	H	a, a.u.	N	Name	H	a, a.u.
5.1	2005 FY9	−0.4	45.706	5.261	2005 JO179	6.7	43.633
5.2	2003 EL61	0.1	43.338	5.262	2005 GV210	6.7	45.015
5.3	2004 DW [4]	2.3	39.386	5.263	2005 GE187	6.7	39.6
5.4	2002 LM60 [5]	2.6	43.548	5.264	2005 GB187	6.7	39.795
5.5	2001 KX76 [6]	3.2	39.623	5.265	2004 PF112	6.7	44.925
5.6	2002 TX300	3.3	43.088	5.266	2004 PE112	6.7	45.903
5.7	2002 AW197	3.3	47.37	5.267	2004 PU107	6.7	44.997
5.8	2002 UX25	3.6	42.526	5.268	2003 UK293	6.7	43.92
5.9	2000 WR106 [7]	3.7	42.954	5.269	2003 UE292	6.7	43.469
5.10	2002 MS4	3.8	41.864	5.270	2003 QT91	6.7	44.093
5.11	2003 AZ84	3.9	39.508	5.271	2003 QL91	6.7	42.946
5.12	2004 GV9	4.0	42.252	5.272	2003 QH91	6.7	39.187
5.13	2003 OP32	4.1	43.183	5.273	2003 QZ90	6.7	43.577
5.14	2003 VS2	4.2	39.289	5.274	2003 FC128	6.7	35.127
5.15	2003 QW90	4.4	43.621	5.275	2003 FM127	6.7	43.304
5.16	2004 SB60	4.4	41.92	5.276	2002 VF131	6.7	44.025
5.17	2002 KX14	4.4	39	5.277	2002 VA131	6.7	42.111
5.18	2004 TY364	4.5	38.708	5.278	2002 PT170	6.7	46.154
5.19	1996 TO66	4.5	43.161	5.279	2001 QG298	6.7	39.194
5.20	2004 PR107	4.6	45.75	5.280	2001 QQ297	6.7	44.24
5.21	2002 KW14	4.6	46.959	5.281	2001 KU76	6.7	45.347
5.22	2001 QF298	4.7	39.268	5.282	2001 KO76	6.7	43.915

N	Name	H	a, a.u.
5.23	2000 EB173 [8]	4.7	39.77
5.24	1995 SM55	4.8	41.65
5.25	1999 TC36	4.9	39.242
5.26	1998 WH24 [9]	4.9	45.599
5.27	2002 XV93	5.0	39.263
5.28	2000 CN105	5.0	44.713
5.29	2003 FY128	5.0	49.84
5.30	2002 CY248	5.1	46.243
5.31	1999 CD158	5.1	43.755
5.32	2002 WC19	5.1	47.73
5.33	1997 CS29	5.1	43.943
5.34	2003 UZ117	5.2	44.054
5.35	2003 QM91	5.3	45.247
5.36	2003 QA91	5.3	44.269
5.37	2002 PJ149	5.3	45.361
5.38	2002 GV31	5.3	43.253
5.39	2001 KA77	5.3	47.645
5.40	2002 VE95	5.3	39.154
5.41	2001 UQ18	5.4	44.083
5.42	2001 QS322	5.4	43.889
5.43	2001 QY297	5.4	43.855
5.44	2001 QS297	5.4	43.797
5.45	2000 CO105	5.4	47.097
5.46	2005 PR21	5.5	44.857
5.47	2002 XH91	5.5	43.924
5.48	2002 GJ32	5.5	44.521
5.49	2001 YH140	5.5	42.384
5.50	2001 XD255	5.5	39.504
5.51	2001 QT297	5.5	43.965
5.52	2002 XW93	5.5	37.422
5.53	2004 PT107	5.6	40.538
5.54	2002 VU130	5.6	39.065
5.55	2002 VT130	5.6	42.314
5.56	2002 PM149	5.6	44.144
5.57	2002 PQ145	5.6	43.773
5.58	2002 GD32	5.6	44.737
5.59	2001 XR254	5.6	42.988
5.60	2001 QD298	5.6	42.59
5.61	2005 JA175	5.7	42.728
5.62	2003 UB292	5.7	46.904
5.63	2003 GH55	5.7	44.475
5.64	2002 GF32	5.7	39.517
5.65	2001 CZ31	5.7	45.41
5.66	2002 VR128	5.7	39.272
5.67	2005 JP179	5.8	43.419
5.68	2003 WU188	5.8	44.072
5.69	2003 QA112	5.8	42.648

N	Name	H	a, a.u.
5.283	2000 CP104	6.7	44.47
5.284	1999 RN215	6.7	43.01
5.285	1999 RE215	6.7	44.828
5.286	1998 WY24	6.7	43.121
5.287	1998 FS144	6.7	42.007
5.288	1996 RR20	6.7	39.431
5.289	2001 KE76	6.7	43.226
5.290	1999 HX11 [11]	6.7	39.21
5.291	2005 JH177	6.8	44.002
5.292	2005 GW186	6.8	43.213
5.293	2005 EB318	6.8	44.522
5.294	2004 VA76	6.8	43.946
5.295	2004 EU95	6.8	44.454
5.296	2003 UP292	6.8	39.276
5.297	2003 QZ111	6.8	42.895
5.298	2003 QD91	6.8	43.158
5.299	2003 QX90	6.8	43.747
5.300	2003 FF128	6.8	39.844
5.301	2003 FH127	6.8	44.817
5.302	2002 PA171	6.8	44.261
5.303	2002 GY32	6.8	39.736
5.304	2002 FV6	6.8	47.228
5.305	2002 CB225	6.8	44.307
5.306	2001 XB255	6.8	44.717
5.307	2001 RV143	6.8	43.085
5.308	2001 QE298	6.8	43.543
5.309	2001 OS108	6.8	46.453
5.310	2001 KQ76	6.8	42.842
5.311	2001 FO185	6.8	46.827
5.312	2000 YB2	6.8	38.632
5.313	2000 CE105	6.8	43.909
5.314	1999 RX214	6.8	45.913
5.315	1999 OJ4	6.8	38.01
5.316	1999 OX3	6.8	32.136
5.317	2001 KJ76	6.8	43.911
5.318	1999 OY3	6.8	43.878
5.319	1998 KR65	6.8	43.496
5.320	2001 FM185	6.8	38.784
5.321	1996 TP66	6.8	39.201
5.322	2005 PO21	6.9	43.291
5.323	2005 GX206	6.9	39.622
5.324	2005 GD187	6.9	44.555
5.325	2005 GC187	6.9	44.568
5.326	2005 EN302	6.9	45.083
5.327	2004 VM78	6.9	44.359
5.328	2004 VZ75	6.9	43.673
5.329	2004 VY75	6.9	45.532

N	Name	H	a, a.u.
5.70	2002 GH32	5.8	42.251
5.71	2001 RU143	5.8	39.297
5.72	2001 QO297	5.8	42.771
5.73	2001 KD77	5.8	39.766
5.74	2000 AF255	5.8	48.786
5.75	1999 KR16	5.8	49.241
5.76	1998 SN165	5.8	37.764
5.77	1998 SM165	5.8	47.446
5.78	2005 JR179	5.9	45.488
5.79	2004 VT75	5.9	39.991
5.80	2004 PV107	5.9	44.74
5.81	2004 DH64	5.9	46.777
5.82	2003 WQ188	5.9	46.338
5.83	2003 FE128	5.9	48.342
5.84	2001 UP18	5.9	47.57
5.85	2001 QJ298	5.9	44.014
5.86	2000 CJ105	5.9	44.369
5.87	1999 CL119	5.9	47.013
5.88	1999 RZ253	5.9	43.721
5.89	2002 XE91	6.0	45.59
5.90	2002 PD149	6.0	42.83
5.91	2002 CX224	6.0	46.034
5.92	2002 CP154	6.0	43.413
5.93	2001 RZ143	6.0	43.868
5.94	2001 QU297	6.0	43.706
5.95	2000 ON67	6.0	42.878
5.96	2000 OK67	6.0	46.398
5.97	2000 OJ67	6.0	42.758
5.98	2000 KK4	6.0	41.48
5.99	2000 GN171	6.0	39.726
5.100	2005 EF298	6.1	44.991
5.101	2004 PY107	6.1	44.231
5.102	2004 OL12	6.1	43.632
5.103	2004 EO95	6.1	43.746
5.104	2003 UJ292	6.1	43.779
5.105	2003 UA292	6.1	46.767
5.106	2003 QW111	6.1	43.591
5.107	2002 VB131	6.1	42.925
5.108	2002 CV154	6.1	45.665
5.109	2001 RX143	6.1	39.236
5.110	2001 QC298	6.1	46.163
5.111	2001 KY76	6.1	39.5
5.112	2001 HZ58	6.1	42.999
5.113	2000 WT169	6.1	44.773
5.114	2000 QE226	6.1	43.908
5.115	1999 XY143	6.1	42.915
5.116	1998 WW31	6.1	44.5
5.117	2002 PA149	6.1	43.506

N	Name	H	a, a.u.
5.330	2004 PX107	6.9	45.169
5.331	2004 ES95	6.9	45.011
5.332	2004 EP95	6.9	43.409
5.333	2003 UC292	6.9	45.123
5.334	2003 QB112	6.9	43.474
5.335	2003 QV90	6.9	43.668
5.336	2003 LD9	6.9	47.591
5.337	2003 LD7	6.9	42.9
5.338	2003 GM53	6.9	44.454
5.339	2003 FB128	6.9	39.872
5.340	2002 XF91	6.9	44.615
5.341	2002 VW130	6.9	45.966
5.342	2002 GW32	6.9	35.195
5.343	2002 GU32	6.9	39.538
5.344	2002 FX6	6.9	45.113
5.345	2002 CW224	6.9	39.235
5.346	2001 FK193	6.9	44.346
5.347	2001 FQ185	6.9	48.087
5.348	2001 DD106	6.9	44.273
5.349	2000 YA2	6.9	43.968
5.350	2000 YX1	6.9	45.429
5.351	2000 PD30	6.9	46.474
5.352	2000 CO114	6.9	46.143
5.353	2000 CF105	6.9	43.95
5.354	2000 CN104	6.9	42.927
5.355	1999 RC215	6.9	43.853
5.356	1999 GS46	6.9	44.82
5.357	1999 OF4	6.9	44.914
5.358	1999 CL158	6.9	41.571
5.359	1994 JQ1	6.9	44.379
5.360	1993 SC	6.9	39.367
5.361	2005 PK21	7.0	44.329
5.362	2005 GZ186	7.0	43.83
5.363	2005 EX318	7.0	39.611
5.364	2004 VS75	7.0	43.473
5.365	2004 UT10	7.0	47.85
5.366	2004 DL64	7.0	45.353
5.367	2003 UT292	7.0	39.138
5.368	2003 UQ292	7.0	39.514
5.369	2003 UN292	7.0	44.712
5.370	2003 UM292	7.0	46.075
5.371	2003 UX291	7.0	46.5
5.372	2003 QU91	7.0	43.634
5.373	2003 QG91	7.0	43.881
5.374	2003 QC91	7.0	43.453
5.375	2003 FD128	7.0	39.4
5.376	2002 VZ94	7.0	45.743
5.377	2002 PN149	7.0	42.254

N	Name	H	a, a.u.
5.118	1999 DF9	6.1	46.679
5.119	2005 PU21	6.2	44.278
5.120	2005 PQ21	6.2	43.754
5.121	2005 PL21	6.2	44.798
5.122	2005 EO302	6.2	45.724
5.123	2004 PA108	6.2	43.588
5.124	2003 QA92	6.2	38.119
5.125	2003 QR91	6.2	46.63
5.126	2003 QB91	6.2	39.133
5.127	2003 LC7	6.2	45.14
5.128	2003 LB7	6.2	45.967
5.129	2003 LA7	6.2	46.563
5.130	2002 PE155	6.2	43.05
5.131	2002 FX36	6.2	44.381
5.132	2001 QX297	6.2	44.064
5.133	2001 QR297	6.2	44.323
5.134	2000 CK105	6.2	39.499
5.135	2000 CL104	6.2	44.617
5.136	1996 TC68	6.2	41.97
5.137	1996 TK66	6.2	42.547
5.138	2005 PN21	6.3	45.739
5.139	2005 JZ174	6.3	45.003
5.140	2005 EC318	6.3	44.222
5.141	2005 EO304	6.3	45.197
5.142	2004 PB108	6.3	44.9
5.143	2004 PW107	6.3	43.618
5.144	2004 ER95	6.3	44.48
5.145	2003 UW291	6.3	44.614
5.146	2003 QX111	6.3	39.32
5.147	2003 QJ91	6.3	43.506
5.148	2003 QY90	6.3	42.687
5.149	2003 QT90	6.3	45.806
5.150	2003 KO20	6.3	45.663
5.151	2002 VS130	6.3	44.878
5.152	2002 VE130	6.3	44.417
5.153	2002 PN147	6.3	44.443
5.154	2002 GN32	6.3	39.362
5.155	2001 XU254	6.3	43.589
5.156	2001 QQ322	6.3	43.864
5.157	2001 QB298	6.3	42.554
5.158	2001 QZ297	6.3	44.293
5.159	2001 QV297	6.3	43.976
5.160	2001 DC106	6.3	43.622
5.161	2000 QK252	6.3	45.147
5.162	2000 QL251	6.3	47.58
5.163	2000 OU69	6.3	43.203
5.164	2000 OH67	6.3	44.115

N	Name	H	a, a.u.
5.378	2002 PK149	7.0	37.113
5.379	2002 GE32	7.0	39.539
5.380	2002 GX31	7.0	43.301
5.381	2002 GW31	7.0	39.508
5.382	2002 CR154	7.0	42.627
5.383	2001 XV254	7.0	45.658
5.384	2001 QF331	7.0	39.48
5.385	2001 KQ77	7.0	39.723
5.386	2001 KT76	7.0	45.438
5.387	2001 FL185	7.0	44.359
5.388	2000 YF2	7.0	45.434
5.389	2000 YW1	7.0	42.92
5.390	2000 WN183	7.0	44.098
5.391	2000 QO252	7.0	45.556
5.392	2000 QM251	7.0	44.532
5.393	1999 OE4	7.0	45.287
5.394	1999 HH12	7.0	43.86
5.395	1999 CQ133	7.0	41.388
5.396	1999 CX131	7.0	42.416
5.397	1999 CB119	7.0	47.238
5.398	1998 UU43	7.0	36.34
5.399	1996 RQ20	7.0	43.68
5.400	1995 GJ	7.0	42.907
5.401	1994 TG2	7.0	42.448
5.402	1994 TH	7.0	40.94
5.403	1994 TG	7.0	42.254
5.404	1993 FW	7.0	44.035
5.405	2004 EW95	7.0	39.724
5.406	2003 UR292	7.0	32.219
5.407	2001 KP77	7.0	43.978
5.408	2001 KN77	7.0	39.356
5.409	1994 VK8	7.0	42.696
5.410	2005 TN74	7.1	30.009
5.411	2005 EO297	7.1	43.848
5.412	2004 VX75	7.1	43.847
5.413	2004 TB358	7.1	43.811
5.414	2004 PA112	7.1	38.838
5.415	2004 PZ111	7.1	43.621
5.416	2004 DL71	7.1	44.244
5.417	2003 WV188	7.1	45.92
5.418	2003 UV292	7.1	39.187
5.419	2003 UG292	7.1	44.113
5.420	2003 UV291	7.1	44.259
5.421	2003 UU291	7.1	44.161
5.422	2003 US291	7.1	44.922
5.423	2003 QB92	7.1	34.828
5.424	2003 FJ127	7.1	44.433

N	Name	H	a, a.u.
5.165	2001 KK76	6.3	42.7
5.166	2000 CM105	6.3	42.299
5.167	2000 CH105	6.3	44.576
5.168	2005 JQ179	6.4	43.784
5.169	2005 EW318	6.4	46.604
5.170	2005 EH305	6.4	44.056
5.171	2005 EX297	6.4	45.104
5.172	2003 WU172	6.4	39.128
5.173	2003 UT291	6.4	42.625
5.174	2003 QP91	6.4	43.493
5.175	2003 FL127	6.4	39.419
5.176	2002 VC131	6.4	46.323
5.177	2002 PW170	6.4	44.816
5.178	2002 GH166	6.4	39.316
5.179	2002 GK32	6.4	43.798
5.180	2002 CW154	6.4	46.236
5.181	2002 CQ154	6.4	43.161
5.182	2001 RW143	6.4	42.795
5.183	2001 PK47	6.4	39.576
5.184	2001 KN76	6.4	44.022
5.185	2001 KL76	6.4	44.711
5.186	2001 HY65	6.4	43.456
5.187	2001 DB106	6.4	43.314
5.188	2000 WK183	6.4	44.258
5.189	2000 CL105	6.4	43.154
5.190	1996 TS66	6.4	43.719
5.191	2005 PS21	6.5	44.916
5.192	2005 PP21	6.5	45.502
5.193	2005 EO296	6.5	45.107
5.194	2005 EE296	6.5	45.847
5.195	2004 DM64	6.5	44.384
5.196	2003 UZ291	6.5	44.951
5.197	2003 QE112	6.5	42.97
5.198	2003 LZ6	6.5	43.477
5.199	2003 GF55	6.5	45.873
5.200	2003 FM129	6.5	45.237
5.201	2002 VE131	6.5	45.749
5.202	2002 PV170	6.5	42.576
5.203	2002 PE153	6.5	44.039
5.204	2002 PO149	6.5	43.933
5.205	2002 GY31	6.5	43.492
5.206	2002 CC249	6.5	47.386
5.207	2002 CY154	6.5	44.494
5.208	2002 CO154	6.5	42.724
5.209	2001 QG331	6.5	44.754
5.210	2001 QP297	6.5	45.086
5.211	2001 OU108	6.5	46.754
5.212	2001 OQ108	6.5	45.826

N	Name	H	a, a.u.
5.425	2002 VF130	7.1	45.649
5.426	2002 VD130	7.1	47.587
5.427	2002 PU170	7.1	47.621
5.428	2002 PQ149	7.1	44.339
5.429	2002 PP149	7.1	40.843
5.430	2001 RY143	7.1	44.876
5.431	2001 KM76	7.1	44.871
5.432	2001 KF76	7.1	44.644
5.433	2000 YV1	7.1	43.706
5.434	2000 YU1	7.1	43.468
5.435	2000 WV12	7.1	43.338
5.436	2000 QA243	7.1	43.27
5.437	1999 RT215	7.1	43.089
5.438	1999 OM4	7.1	46.03
5.439	1999 CX118	7.1	43.662
5.440	1998 WT31	7.1	45.842
5.441	1997 QH4	7.1	42.551
5.442	2001 UO18	7.1	39.462
5.443	1996 TQ66	7.1	39.252
5.444	1999 RY215	7.1	45.128
5.445	1994 TB	7.1	39.278
5.446	2005 GZ206	7.2	44.747
5.447	2005 GX186	7.2	43.493
5.448	2005 ED300	7.2	43.923
5.449	2005 EP296	7.2	46.832
5.450	2004 DM71	7.2	43.329
5.451	2004 DJ64	7.2	44.832
5.452	2003 UK292	7.2	43.211
5.453	2003 UY291	7.2	49.016
5.454	2003 QN91	7.2	42.449
5.455	2003 QF91	7.2	42.849
5.456	2003 QE91	7.2	44.313
5.457	2003 QU90	7.2	43.384
5.458	2003 KP20	7.2	44.847
5.459	2003 FK127	7.2	42.833
5.460	2002 GV32	7.2	39.776
5.461	2002 CA225	7.2	45.714
5.462	2002 CT154	7.2	47.082
5.463	2002 CS154	7.2	43.374
5.464	2002 CR46	7.2	38.162
5.465	2001 SE291	7.2	45.182
5.466	2001 KE77	7.2	45.726
5.467	2001 FE193	7.2	47.071
5.468	2000 QL252	7.2	39.659
5.469	2000 PY29	7.2	44.171
5.470	2000 JF81	7.2	46.418
5.471	2000 FW53	7.2	47.2
5.472	2000 CN114	7.2	44.068

N	Name	H	a, a.u.
5.213	2001 HA59	6.5	44.817
5.214	2000 CG105	6.5	46.462
5.215	1998 WX24	6.5	43.167
5.216	1997 CW29	6.5	39.375
5.217	1995 KJ1	6.5	43.468
5.218	1998 VG44	6.5	39.148
5.219	2005 PM21	6.6	43.678
5.220	2005 EZ296	6.6	39.501
5.221	2004 VU75	6.6	44.311
5.222	2004 UD10	6.6	43.984
5.223	2004 TV357	6.6	47.033
5.224	2004 PY111	6.6	44.335
5.225	2004 FU148	6.6	39.876
5.226	2003 UX292	6.6	44.063
5.227	2003 UD292	6.6	45.998
5.228	2003 QF113	6.6	43.8
5.229	2003 QY111	6.6	43.164
5.230	2003 QO91	6.6	44.289
5.231	2002 VD131	6.6	44.907
5.232	2002 PD155	6.6	43.119
5.233	2002 PH149	6.6	42.908
5.234	2002 PF149	6.6	42.892
5.235	2002 PE149	6.6	43.046
5.236	2002 FW36	6.6	43.115
5.237	2002 CZ224	6.6	45.115
5.238	2002 CU154	6.6	43.954
5.239	2001 UN18	6.6	44.074
5.240	2001 UA17	6.6	42.915
5.241	2001 QT322	6.6	36.953
5.242	2001 QA298	6.6	46.186
5.243	2001 KH76	6.6	46.351
5.244	2000 QC226	6.6	43.993
5.245	2000 QB226	6.6	45.644
5.246	2000 OL67	6.6	44.986
5.247	2000 GP183	6.6	40.083
5.248	2000 CQ114	6.6	46.298
5.249	2000 CY105	6.6	45.533
5.250	1999 HS11	6.6	44.413
5.251	1998 WY31	6.6	45.136
5.252	1998 WX31	6.6	45.318
5.253	1998 WG24	6.6	45.513
5.254	1998 KG62	6.6	43.389
5.255	1997 CT29	6.6	43.891
5.256	2001 KP76	6.6	43.772
5.257	2000 FD8	6.6	44.035
5.258	1997 CQ29	6.6	45.423
5.259	1999 HU11 [10]	6.6	44.382
5.260	1997 CU29	6.6	43.517

N	Name	H	a, a.u.
5.473	1999 RA216	7.2	43.761
5.474	1999 HG12	7.2	43.915
5.475	1999 HR11	7.2	43.963
5.476	1999 CU153	7.2	44.29
5.477	1999 CC119	7.2	45.032
5.478	1998 BU48	7.2	33.354
5.479	1995 WY2	7.2	46.412
5.480	1995 DC2	7.2	44.337
5.481	1994 EV3	7.2	43.167
5.482	1998 WA25	7.2	42.357
5.483	1997 CR29	7.2	47.146
5.484	1992 QB1	7.2	43.74
5.485	2005 EZ300	7.3	37.341
5.486	2004 SC60	7.3	39.46
5.487	2004 ET95	7.3	43.785
5.488	2004 DG77	7.3	43.955
5.489	2004 DK71	7.3	44.319
5.490	2003 UL292	7.3	44.902
5.491	2003 UF292	7.3	44.783
5.492	2002 VZ130	7.3	45.806
5.493	2002 PB171	7.3	43.573
5.494	2002 PP153	7.3	45.161
5.495	2002 GC32	7.3	43.473
5.496	2002 FU6	7.3	46.077
5.497	2002 CD251	7.3	42.744
5.498	2001 KW76	7.3	46.304
5.499	2001 FN185	7.3	42.804
5.500	2001 DM108	7.3	45.437
5.501	2000 YY142	7.3	44.9
5.502	2000 WM183	7.3	44.851
5.503	2000 WL183	7.3	43.138
5.504	2000 QN251	7.3	41.984
5.505	2000 QD226	7.3	41.171
5.506	2000 FH8	7.3	43.779
5.507	2000 CS105	7.3	44.713
5.508	1999 SA28	7.3	39.234
5.509	1999 RC216	7.3	44.403
5.510	1999 RB216	7.3	47.316
5.511	1999 RU215	7.3	42.866
5.512	1999 RW214	7.3	42.727
5.513	1999 OD4	7.3	41.403
5.514	1999 CH119	7.3	43.401
5.515	1999 CD119	7.3	43.993
5.516	1998 KY61	7.3	44.326
5.517	1997 RT5	7.3	41.166
5.518	1996 KV1	7.3	45.413
5.519	2000 PK30	7.3	38.625
5.520	1999 RA215	7.3	43.078

Table 6. Near region of scattered-disk Kuiper belt

N	Name	H	a, a.u.	N	Name	H	a, a.u.
6.1	2003 UB313	−1.2	67.668	6.17	2002 CY224	6.3	54.085
6.2	2002 TC302	3.9	55.037	6.18	2004 OJ14	6.4	55.085
6.3	2001 UR163	4.2	51.357	6.19	2002 GZ31	6.5	50.845
6.4	1999 DE9	4.7	55.856	6.20	1999 HW11	6.5	53.079
6.5	2000 YW134	5.0	57.896	6.21	2002 GP32	6.7	56.063
6.6	1995 TL8	5.4	52.239	6.22	2001 KC77	6.7	55.642
6.7	2002 JR146	5.5	53.398	6.23	2000 FE8	6.7	55.884
6.8	2001 QX322	5.7	59.959	6.24	2000 CM114	6.8	59.938
6.9	2001 QW297	5.7	51.594	6.25	2003 QK91	6.9	67.574
6.10	1999 CC158	5.8	54.024	6.26	2002 GA32	7.0	52.423
6.11	2000 CQ105	5.9	57.345	6.27	2002 GG32	7.1	55.884
6.12	2004 PD112	6.1	64.295	6.28	2002 CX154	7.1	71.934
6.13	2001 KG76	6.2	51.996	6.29	2000 YY1	7.1	63.243
6.14	2000 PE30	6.2	54.471	6.30	1999 HB12	7.2	56.296
6.15	1998 XY95	6.2	64.215	6.31	2002 GX32	7.3	53.671
6.16	2003 UY117	6.3	55.19				

Table 7. Distant region of scattered-disk Kuiper belt

N	Name	H	a, a.u.	N	Name	H	a, a.u.
7.1	2003 VB12 [12]	1.6	489	7.7	2001 FZ173	6.2	87.049
7.2	1996 GQ21	5.2	95.067	7.8	2003 FX128	6.3	103
7.3	1996 TL66	5.4	82.781	7.9	2000 OM67	6.7	97.941
7.4	2004 TF282	6.0	80.044	7.10	2004 PB112	7.2	107
7.5	2000 CR105	6.1	221	7.11	1999 RU214	7.3	95.528
7.6	2001 FP185	6.1	227	7.12	1999 CF119	7.3	89.602

Table 8. Exoplanets

N	Name	m/m_J	a, a.u.	N	Name	m/m_J	a, a.u.
8.1	PSR B1257+12 b[13]	6.3×10^{-5}	0.19	8.95	HD 4203 b	1.65	1.09
8.2	PSR B1257+12 d[14]	0.0123	0.46	8.96	HD 160691 b	1.67	1.5
8.3	PSR B1257+12 c[15]	0.0135	0.36	8.97	16 Cyg B b	1.69	1.67
8.4	Gl 876 d	0.023	0.021	8.98	HD 50499 b	1.71	3.86
8.5	HD 160691 d	0.044	0.09	8.99	HD 82943 b	1.75	$\sim$ 1.19
8.6	HD 212301 b	0.045	0.036	8.100	HD 154857 b	1.8	1.11
8.7	55 Cnc e	0.045	0.038	8.101	HD 196885 b	1.84	1.12
8.8	HD 4308 b	0.047	0.114	8.102	HD 74156 b	1.86	0.294
8.9	Gl 581 b	0.056	0.041	8.103	HD 73256 b	1.87	0.037
8.10	HD 190360 c	0.057	0.128	8.104	Proxima [20]	1.89	1.3
8.11	GJ 436 b	0.067	0.028	8.105	ν And c	1.89	0.829
8.12	HD 49674 b	0.11	0.057	8.106	HD 68988 b	1.9	0.071
8.13	HD 11964 b	0.11	0.229	8.107	Gl 876 b	1.94	0.208

N	Name	m/m_J	a, a.u.
8.14	HD 99492 b	0.122	0.119
8.15	HD 102117 b	0.14	0.149
8.16	HD 117618 b	0.19	0.28
8.17	HD 76700 b	0.197	0.049
8.18	HD 3651 b	0.2	0.284
8.19	55 Cnc c	0.217	0.24
8.20	HD 88133 b	0.22	0.047
8.21	HD 168746 b	0.23	0.065
8.22	HD 16141 b	0.23	0.35
8.23	HD 46375 b	0.249	0.041
8.24	HD 109749 b	0.28	0.064
8.25	HD 101930 b	0.3	0.302
8.26	PSR B1257+12 e [16]	~ 0.3	40
8.27	HD 149026 b	0.36	0.042
8.28	HD 93083 b	0.37	0.477
8.29	HD 63454 b	0.38	0.036
8.30	HD 108147 b	0.4	0.104
8.31	HD 83443 b	0.41	0.04
8.32	HD 75289 b	0.42	0.046
8.33	HD 208487 b	0.45	0.49
8.34	51 Peg b	0.468	0.052
8.35	HD 2638 b	0.48	0.044
8.36	BD-10 3166 b	0.48	0.046
8.37	HD 6434 b	0.48	0.15
8.38	HD 102195 b	0.48	0.049
8.39	HD 187123 b	0.52	0.042
8.40	OGLE-TR-111 b	0.53	0.047
8.41	OGLE-TR-10 b	0.54	0.042
8.42	Gl 876 c	0.56	0.13
8.43	HD 34445 b	0.58	0.51
8.44	HD 37124 c	0.6	1.64
8.45	TrES-1	0.61	0.039
8.46	HD 37124 b	0.61	0.53
8.47	HD 27894 b	0.62	0.122
8.48	HD 216770 b	0.65	0.46
8.49	HD 37124 d	0.66	3.19
8.50	HD 209458 b [17]	0.69	0.045
8.51	ν And b	0.69	0.059
8.52	HD 192263 b	0.72	0.15
8.53	HD 330075 b	0.76	0.043
8.54	47 UMa c	0.76	3.73
8.55	HD 38529 b	0.78	0.129

N	Name	m/m_J	a, a.u.
8.108	HR 810 b	1.94	0.91
8.109	HD 19994 b	2.0	1.3
8.110	HD 70642 b	2.0	3.3
8.111	OGLE 235-MOA53 b[21]	2	2.9 d
8.112	HD 82943 c	2.01	$\sim$ 0.746
8.113	HD 117207 b	2.06	3.78
8.114	HD 217107 c	2.1	4.3
8.115	HD 216437 b	2.1	2.7
8.116	HD 118203 b	2.13	0.07
8.117	HD 128311 b	2.18	1.099
8.118	HD 8574 b	2.23	0.76
8.119	HD 37605 b	2.3	0.25
8.120	HD 12661 b	2.3	0.83
8.121	HD 41004 A b	2.3	1.31
8.122	HD 202206 c	2.44	2.55
8.123	47 UMa b	2.54	2.09
8.124	HD 23079 b	2.61	1.65
8.125	OGLE-05-071 b [22]	2.7	3 d
8.126	HD 89307 b	2.73	4.15
8.127	HD 169830 b	2.88	0.81
8.128	HD 219449 b	2.9	0.3
8.129	HD 72659 b	2.96	4.16
8.130	HD 73526 b	3.0	0.66
8.131	HD 196050 b	3.0	2.5
8.132	HD 160691 c	3.1	4.17
8.133	61 Cyg B b [23]	3.14	3.3
8.134	HD 128311 c	3.21	1.76
8.135	GJ 3021 b	3.32	0.49
8.136	HD 40979 b	3.32	0.811
8.137	HD 80606 b	3.41	0.439
8.138	HD 195019 b	3.43	0.14
8.139	61 Cyg A b [24]	3.67	2.9
8.140	HD 183263 b	3.69	1.52
8.141	ν And d	3.75	2.53
8.142	HD 92788 b	3.86	0.97
8.143	τ Boo b	3.9	0.046
8.144	55 Cnc d	3.92	5.257
8.145	Gl 86 b	4.01	0.11
8.146	HD 169830 c	4.04	3.6
8.147	HD 142022 A b	4.4	2.8
8.148	HD 213240 b	4.5	2.03
8.149	14 Her b	4.74	2.8

N	Name	m/m_J	a, a.u.
8.56	55 Cnc b	0.784	0.115
8.57	HD 4208 b	0.8	1.67
8.58	HD 114729 b	0.82	2.08
8.59	ε Eri b	0.86	3.3
8.60	HD 121504 b	0.89	0.32
8.61	Lalande 21185 b [18]	0.9	2.4
8.62	HD 10647 b	0.91	2.1
8.63	HD 179949 b	0.98	0.04
8.64	HD 45350 b	0.98	1.77
8.65	HD 114783 b	0.99	1.2
8.66	HD 114386 b	0.99	1.62
8.67	HD 150706 b	1.0	0.82
8.68	HD 142 b	1.0	0.98
8.69	HD 147513 b	1.0	1.26
8.70	HD 108874 c	1.018	2.68
8.71	ρ CrB b	1.04	0.22
8.72	HD 20367 b	1.07	1.25
8.73	HD 130322 b	1.08	0.088
8.74	HD 52265 b	1.13	0.49
8.75	HD 188753A b	1.14	0.0446
8.76	HD 189733 b	1.15	0.0313
8.77	OGLE-TR-132 b	1.19	0.0306
8.78	HD 65216 b	1.21	1.37
8.79	HD 210277 b	1.24	1.097
8.80	HD 188015 b	1.26	1.19
8.81	HD 177830 b	1.28	1
8.82	HD 27442 b	1.28	1.18
8.83	HD 149143 b	1.33	0.053
8.84	OGLE-TR-113 b	1.35	0.0228
8.85	HD 108874 b	1.36	1.051
8.86	HD 217107 b	1.37	0.074
8.87	OGLE-TR-56 b	1.45	0.0225
8.88	HD 216435 b	1.49	2.7
8.89	HD 190360 b	1.502	3.92
8.90	HD 12661 c	1.57	2.56
8.91	HD 134987 b	1.58	0.78
8.92	γ Cep b	1.59	2.03
8.93	Lalande 21185 c [19]	1.6	7.3
8.94	HD 142415 b	1.62	1.05

N	Name	m/m_J	a, a.u.
8.150	HD 2039 b	4.85	2.19
8.151	HD 50554 b	4.9	2.38
8.152	HD 47536 b	4.96	1.61
8.153	HD 190228 b	4.99	2.31
8.154	PSR B1620-26 b [25]	~ 5	10–30
8.155	2M 1207 b [26]	5	41 d
8.156	HD 222582 b	5.11	1.35
8.157	HD 59686 b	5.25	0.911
8.158	HD 28185 b	5.7	1.03
8.159	61 Cyg A c [27]	5.76	4.7
8.160	DM+59^{o}1915 [28]	6	
8.161	HD 10697 b	6.12	2.13
8.162	HD 74156 c	6.17	3.4
8.163	HD 178911 B b	6.29	0.32
8.164	HD 104985 b	6.3	0.78
8.165	HD 11977 b	6.54	1.93
8.166	HD 111232 b	6.8	1.97
8.167	HD 106252 b	6.81	2.61
8.168	HD 81040 b	6.86	1.94
8.169	HD 23596 b	7.19	2.72
8.170	HD 168443 b	7.2	0.29
8.171	70 Vir b	7.44	0.48
8.172	HD 89744 b	7.99	0.89
8.173	HIP 75458 b	8.64	1.34
8.174	EV Lac b [29]	9–23	~ 5
8.175	HD 33564 b	9.1	1.1
8.176	HD 30177 b	9.17	3.86
8.177	HD 33636 b	9.28	3.56
8.178	HD 141937 b	9.7	1.52
8.179	Krü 60(A/B) b [30]	10	
8.180	HD 39091 b	10.35	3.29
8.181	HD 114762 b	11.02	0.3
8.182	HD 136118 b	11.9	2.3
8.183	HD 38529 c	12.7	3.68
8.184	AB Pic b [31]	13.5	275 d
8.185	HD 162020 b	13.75	0.072
8.186	HD 13189 b	14	1.85
8.187	HD 168443 c	17.1	2.87
8.188	HD 202206 b	17.4	0.83

1 – Chariklo, 2 – Chiron, 3 – Pholus, 4 – Orcus, 5 – Quaoar, 6 – Ixion, 7 – Varuna, 8 – Huya, 9 – Chaos, 10 – Deucalion, 11 – Rhadamanthus, 12 – Sedna; 13 – Me, RV; 14 – Si/Me, RV; 15 – Si/Me, RV; 16 – H-He/Ic, RV; 17 – HPh+RV; 18 – A; 19 – A; 20 – A; 21 – GML; 22 – GML; 23 – A; 24 – A; 25 – RV; 26 – IF; 27 – A; 28 – A; 29 – A; 30 – A, 31 – IF; 32 – GML; 33 – Ic/H-He, RV; 34 – GML; 35 – A.; 36 – A.; 37 – A.; 38 – GML; 39 – GML; 40 – GML; 41 – IR; 42 – H-He, RA; 43 – IF.

Thus, optimistic estimations of the number of Solar system planets gives 600 candidates: 9 big planet + 20 satellites of the big planets + 3 Main asteroid belt objects + 5 centaurs + 563 Kuiper belt asteroids (with $A_H = 0.03$, $H = 7^m.3$). Corresponding pessimistic estimations are 122 planets = 9 + 20 + 3 + 0 + 90 (with $A_H = 0.12$, $H = 5^m.8$). Discoveries of 188 planets are enough reliable and 21 exoplanets are needed additional analysis.

References

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Table 9. Candidates

N	Name	m/m_J	a, a.u.
9.1	98-BLG-35[32]	$\sim$ 0.003	~ 80
9.2	PSR B0329+54 b[33]	$>$ 0.0063	7.3
9.3	E Eri c	0.1	40
9.4	Anon b	0.3	0.024
9.5	HD219542 B b	0.3	0.46
9.6	HD 208487 c	? 0.46	? 1.92
9.7	OGLE-TR-36 [34]	0.5	0.025
9.8	Barnard d[35]	0.63	2
9.9	HD 11964 c	0.7	3.167
9.10	Barnard c [36]	0.84	3
9.11	Barnard b [37]	1.26	5
9.12	95-BLG-3 [38]	~ 2	$> 5 - 10$
9.13	14 Her c	2.086	5.81
9.14	HD 62509 b	2.9	1.9
9.15	97-BLG-41 [39]	3.5	7
9.16	94-BLG-4 [40]	~ 5	~ 1
9.17	VB 8 [41]	10	
9.18	PSR B1620–26 b [42]	~ 5	10–30
9.19	HD 8673 b	14	1.58
9.20	HD 100546 b	~ 20	? 6.5
9.21	GQ Lup b [43]	21.5	103 d